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MONTANA FOREST PRODUCTS BULLETIN

Department of State Lands, Division of Forestry
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DRY KILN SCHEDULES FOR COMMERCIAL WOODS

A recent report, prepared by the Forest Products Laboratory (FPL), provides hundreds of dry kiln schedules for temperate and tropical woods. Primarily for use by dry kiln operators and others interested in dry-kilning wood, the report consolidates and updates drying schedules from many sources, making them easy to find and convenient to use.

The report includes dry kiln schedules for several thicknesses of more than 500 temperate and tropical woods and, for many species, schedules for specialty products, such as wooden squares, handle stock, and gun stock blanks. R. Sidney Boone, Forest Products Laboratory; Charles J. Kozlik, Oregon State University (retired); Paul J. Bois, State and Private Forestry (retired); and Eugene Wengert, Virginia Tech, co-authored the report. In addition to revising some recommended schedules, they consolidated information from the world literature, drawing mainly from U.S., Canadian, and British publications.

In some cases, revised schedules are suggested which update the 1961 edition of the Dry Kiln Operator's Manual (Agriculture Handbook No. 188). These changes occur mostly for western U.S. and Canadian softwoods and U.S. southern pine. The report also includes the latest suggested high-temperature (exceeding 212°F) drying schedules for both softwoods and hardwoods. Each of the schedules is completely written out, instead of being listed only in coded form (e.g., T2-D4).

Experienced kiln operators may use the report as a general guideline, altering the schedules according to individual kiln conditions and wood property variations. Most dry kiln schedules in the report were intended for use with steamheated kilns with temperature and humidity closely controlled.

For a copy of General Technical Report FPL-GTR-57, Dry Kiln Schedules for Commercial Woods-Temperate and Tropical, write or call: Forest Products Laboratory, One Gifford Pinchot Dr., Madison, Wisconsin 53705-2398, phone (608) 264-5600.

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IDENTIFYING SPECIALTY PRODUCTS

By Paul Moore

Three times a year the "Specialty Product Log Price Report" appears in the "Montana Forest Products Bulletin" and the Extension Forestry Digest Newsletter. The report lists recent prices paid by post and pole and log home companies within Montana. The objective of this article is to acquaint you with some of the general specifications for these products.

As a landowner or purchaser, there are some questions to consider before cutting the trees into products:

- Do the trees meet the quality specifications desired by the purchaser?
- Are they of the desired species and size?
- Do the trees have excessive defect or too much taper?

Each product purchaser may have different specifications or want only certain sizes and species. The fence rail you cut may end up as a banister in a log home or shipped out of state to a rustic furniture manufacturer.

You may have to do a little shopping to match your products with the right buyer. The "Directory of Montana's Forest Products Industry" lists the specialty product buyers within Montana, and is available through your local Department of State Lands' Service Forester or Extension Forester. You may also want to seek the marketing assistance of a professional consulting forester.

GENERAL SPECIFICATIONS FOR HOUSELOGS:

Lodgepole pine is the principal species used for log home construction in Montana. Also commonly used are Englemann spruce, western larch and western white pine. Occasionally, western red cedar and Douglas-fir are used. There are at least 30 log home companies operating within Montana. Some hand craft logs, others machine turn, or cut and plane them to a particular pattern. A few companies purchase logs green, but most prefer dead, dry, and sound trees. Preferred lengths for hand crafted houselogs range from 33 to 40'. The minimum acceptable large end diameter is 10" and the small end is usually 7 or 8". Logs should be free of unremovable surface rot, and checking should not exceed 3/8" in width. Spiral checking is usually not more than 1/4 turn in 10' to 16' feet of length. A logger's tape stretched along the length of the log should not fall off the log when stretched from corner to corner. Scars (catfaces) on the tree or log caused by fire or injury, are usually acceptable as long as they measure no more than 1/3 of the log diameter or don't excessively deform the log. Logs bent or having a hook form (crook) are unacceptable.

GENERAL SPECIFICATIONS FOR POSTS AND RAILS:

Species used for post and rails are lodgepole pine, western red cedar, ponderosa pine and occasionally Douglas-fir. The principal species is lodgepole pine. Lodgepole is easily peeled, has small tight knots and absorbs preservatives well. When in short supply, western larch can be substituted, but not frequently because the wood is difficult to chemically treat. Ponderosa pine is substituted, but its thick bark, irregular shape and excessive taper make it less desirable.

Post diameters range from 3 to 8", and lengths from 6.5 to 8'. Rails range from 2.5 to 5" in diameter, lengths from 10 to 20'. Many purchasers will only accept green logs because when peeled, a smooth surface finish is produced. Also some preservative treating methods require green wood for the preservative treatment process. On occasion some plants do accept dry material. Crook is unacceptable and only straight sound material can be used.

Some post and pole plants purchase lodgepole pine for grape or tree stakes. These are 8 to 10' in length, and 2 1/4" minimum inside bark diameter at the small end. The maximum diameter accepted is 4".

GENERAL SPECIFICATIONS FOR UTILITY POLES:

A product not reported in the Specialty Price Report, but worth noting is power transmission poles. Lodgepole pine poles are purchased in 30 to 50' lengths. The prices paid are higher than for sawlogs, but the requirements are more stringent. Poles are graded by circumference at ground level, and by length (see Table 1). No hook or excessive swelling at the ground line is permitted. Knots or clusters of large knots over 3" are not allowed. Only limited sweep is allowed. A logger's tape stretched along the length of log should not fall off the log when stretched from end to end. Most pole plants have procurement foresters that can assist you in identifying acceptable poles.

TABLE 1

Lodgepole Pine Poles - Dimensions Outside Bark

CLASS	GROUND LINE	1	2	3	4	5	6	7
30'	5½	44	40½	38	36	33½	31	28½
35'	6	46	43	41	38½	36	34	31
40'	6	49	46	44	41½	39	36	
45'	6½	52	49	46	42½	39½		
50'	7	54	51	48	45	42		
TOP		29	27	25	23	21	19	17

Removing small trees for posts and stakes is a good method for improving the condition of your timber stand and utilizing small trees that may not be suitable for other uses. To help identify when the best time to sell is, keep your eye on the Specialty Price Report.

MONTANA LOG PRICE REPORT

The State-wide log price report on the following pages catalogs recently delivered average log prices to sawmills by species using four geographical areas within Montana. Prices are provided by approximately 35 sawmills operating within the State. The report is compiled through the Extension Forester's Office, School of Forestry, University of Montana, Missoula, Montana 59812.

MONTANA SAWLOG AND VENEER LOG PRICE REPORT

NOVEMBER-DECEMBER 1988

The following information is a summary breakdown of recent past average prices reportedly paid by primary wood processors for logs of the various species listed. These prices are not necessarily a reflection of current market prices. Fair market prices may vary a great deal based on log size, length, quality, contract size and terms, and a number of other factors. All information reported is recent average price per thousand board feet (MBF), Scribner Decimal rule, delivered to the mill site, unless otherwise noted.

Prices provided for this report by individual firms are treated as confidential disclosure of the firm's operations. Any requests for mill-specific data which have been provided for the log report will be denied.

SAWLOGS Scribner Dec C MBF	REGION I	*	REGION II	*	REGION III	*	REGION IV	*
	Avg. Low High		Avg. Low High		Avg. Low High		Avg. Low High	
Ponderosa pine	$121/$110/$135	G-F	$171/$150/$180	G-P				
(Yellow)	$110/$110/$110	F	$219/$185/$260	G				
(Bull)	$110/$110/$110	F	$149/$135/$160	G-P	$130/$120/$150	F-P		
Lodgepole pine	$141/$140/$141	F	$155/$140/$180	G-P	$163/$155/$175	G-F	$174/$165/$195	G-F
Douglas-fir	$140/$140/$140	G	$157/$150/$160	G-F	$162/$155/$170	G-P	$171/$165/$195	G-F
Western larch			$155/$148/$160	G-P	$163/$155/$170	G-P		
Engelmann spruce	$141/$141/$141	F	$155/$135/$170	G-P	$166/$155/$175	G-F	$174/$165/$195	G-F
Subalpine fir			$149/$140/$160	G-P	$155/$145/$170	G-P	$172/$165/$180	G
Grand fir			$148/$140/$160	G-P	$151/$145/$170	G-P		
Western red cedar			$185/$150/$220	G-P				
Hemlock			$147/$140/$150	F-P	$140/$140/$140	P		
White pine			$246/$180/$300	G-P				

VENEER LOGS Scribner Dec C MBF	STATEWIDE REPORT	
Species	Avg. Low High	Demand next 60 days*
Douglas-fir	$167/$165/$170	G-F
Ponderosa pine (bull)	$150/$150/$150	F
Western larch	$167/$165/$170	G-F
Engelmann spruce	$170/$160/$180	F

* Demand next 60 days

G = Good
F = Fair
P = Poor

MONTANA SPECIALTY PRODUCT

LOG PRICE REPORT

NOVEMBER-DECEMBER 1988

The following information is a summary breakdown of recent past (highest and average) prices reportedly paid by primary wood processors for logs to be used in the manufacture of specialty wood products. These prices are not necessarily a reflection of current market prices. Fair market prices may vary a great deal based on log quality, contract size and terms, distance to market, green vs. dry logs, and a number of other factors. All information reported is recent average price per piece (log) delivered to the mill site, unless otherwise noted. Please contact buyers before cutting logs to obtain their detailed specifications (log length & diameter). Species other than those listed may be in demand.

Prices provided for this report by individual firms are treated as confidential disclosure of the firm's operations. Any requests for mill-specific data which have been provided for this report will be denied.

RAILS (Lodgepole pine only)

Prices are recorded as the highest reported price over the average reported price.

D.I.B.* small end (in.)	Length (feet)					
	<10	10	12	16	18	20
2.5-3.0	.55 .45	.55 .52	.60 .60			
3.0-3.5	.55 .46	.92 .70	1.16 .92	1.55 1.33	No prices reported	2.00 1.91
3.5-4.0	.55 .50	.92 .76	1.16 .96	1.75 1.43		1.90 1.87
4.0-4.5	.55 .55	1.05 .87	1.30 .98	2.00 1.63		2.10 2.10
4.5-5.0	.55 .55	1.05 .90	1.30 1.03	2.25 1.70		

*Diameter inside bark.

Demand next 120 days: good, fair, poor
(fair)

POSTS (Lodgepole pine only)

Prices are recorded as the highest reported price over the average reported price.

D.I.B.* small end (in.)	Length (feet)		
	6.5	7.0	8.0
3.0	.40 .37		.40 .40
3.5	.40 .38		.40 .40
4.0	.62 .50	.65 .65	.40 .40
4.5	.62 .53	.65 .65	.65 .52
5.0	.62 .54	.65 .65	1.00 .73
5.5	.62 .54	.80 .72	1.20 .95
6.0	.65 .56	.80 .72	1.30 1.12
8.0	.60 .53	.80 .80	2.60 1.95

*Diameter inside bark.

Demand next 120 days: good, fair, poor
(fair)

POLES (Lodgepole pine and western larch only)

Prices are recorded as the highest reported price over the average reported price.

Top D.I.B.* (in.)	Length (feet)						
	10	16	25	30	35	40	>40
3.0	.92 .92	1.49 1.37					
5.0-5.5		1.25 1.25					
6.0-6.5	2.00 2.00	2.50 2.50	6.00 6.00	10.00 10.00	15.00 15.00	28.00 28.00	35.00 35.00
7.0	2.00 2.00			12.00 12.00	24.00 24.00	34.00 34.00	37.00 37.00
8.0					25.00 25.00	34.00 34.00	38.00 38.00

*Diameter inside bark.

Demand next 120 days: good, fair, poor
(fair)

HOUSE LOGS

Prices are recorded as the highest reported price followed by the average reported price (H/A).

Spec*	Top diam. (in.)	Length (feet)			
		<16	16-32	33-35	>35
LPP	8 9-12	None reported		13.00/13.00 35.00/27.00	19.00/19.00 45.00/36.00

*LPP = lodgepole pine; Engelmann spruce and western larch are also in demand.
Most buyers purchase only rot-free, standing trees with a minimum of spiraling.

Demand next 120 days: good, fair, poor
(fair)

LODGEPOLE PINE LUMBER PRODUCTION
MOVING TOWARD "MAJOR SPECIES" STATUS

Portland, Oregon -- While lumber manufactured from America's most abundant western softwood species, Douglas-fir, hemlock/white fir, redwood and ponderosa pine, combined to make up more than two-thirds of the West's huge sawmill output, another species is steeping into the commercial spotlight.

In 1987, the volume of lumber manufactured from lodgepole pine trees growing in the U.S. West reached 932 million board feet, enough to build almost 75,000 typical single-family American homes.

That was an all-time record performance, according to statistics compiled by the Western Wood Products Association, which represents lumber manufacturers throughout the West. A billion-foot production volume would put the species into a hypothetical "major" commercial volume category.

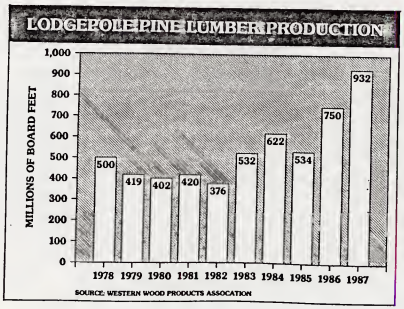
The species owes at least some of its new prominence to the record-breaking U.S. lumber demand experienced over the past three years, according to Fred Reseburg, WWPA's Director of Economic Services. This culminated in 1987 when America consumed 50.6 billion board feet of lumber, an all-time high.

Just as important is the rush to salvage some of the millions of acres of lodgepole pine trees under attack throughout the West by the Mountain Pine Beetle.

The Association estimates the value of last year's lodgepole pine production at $178 million.

Historically, the lodgepole species has been sawn to lumber in the American West since the early 1800's. Its convenient log size (most commonly mature trees in this species run 6 to 10 inches in diameter at breast height) and east availability made it ideal for native lodges, and later for cabins for trappers and settlers. It has been one of several species sawn into lumber products in inland sections of the West through most of this century. Never has lodgepole pine been produced in such volumes as in the past year.

Source: West Wood Products Association News, Yeon Building, 522 SW Fifth Avenue, Portland, Oregon 97204-2122.



HOW DOES WOOD COMPARE NATURAL GAS AND ELECTRICITY?

A cord of dried Montana softwood, such as pine, larch, or Douglas-fir, provides about the same amount of heat as 19.3 thousand cubic feet (MCF) of natural gas or 5,276 kilowatt hours (kwh) of electricity. If you now heat with gas, divide the number of MCF of natural gas you use for heating in a year by 19.3 to estimate the number of cords of wood you would need a year. If you heat with electricity, divide the number of kwh you use for heating in a year by 5,276 to estimate the number of cords of wood you would need a year.

GAS: $\frac{\text{MCF per year}}{19.3}$ = cords of wood needed

ELECTRIC: $\frac{\text{kwh per year}}{5{,}276}$ = cords of wood needed

The "typical" Montana home uses 75 MCF of gas or 20,475 kwh of electricity a year for heating. Heating accounts for about two-thirds of your gas bills in the winter if you heat with gas, or about 40 percent of your total electric bill if you heat with electricity.

In January 1986, 75 MCF of gas from Montana Power Company cost $275, while 20,475 kwh of electricity cost $1,024.

Four cords of dried Montana softwood provide about the same amount of heat as 75 MCF of natural gas or 20,475 kwh of electricity. Four cords of wood bought from a dealer for $50 to $80 a cord would cost between $200 and $320.

Therefore, your savings by switching from gas to wood in this example would be $75 a year if you got your wood for $50 a cord. But wood heat would cost $55 more a year than gas heat if you paid $80 a cord for wood. If you switched from electricity to wood, the savings would be between $704 and $824 a year, depending on the price of the wood.

WHAT'S THE REAL COST OF A CORD OF WOOD YOU CUT YOURSELF?

It may be true that it costs less to cut your own firewood than to buy it from a firewood dealer. However, there are still expenses involved in this process. If you cut your own wood, and you have to drive 25 miles to get your supply, your expenses might look something like this:

Gasoline for cutting and hauling	$12.50 a cord
Equipment depreciation (pickup truck at 30 cents a mile and chain-saw costing $200 over ten years)	$20.00 a cord
Time required to cut and handle a cord of wood (eight hours at $4.50 an hour*)	$36.00 a cord
	$68.50 a cord

*The $4.50 an hour is an average value. If you enjoy woodcutting and consider it recreation, the cost of your time would be less than $4.50 an hour. If you have little free time and consider woodcutting drudgery, the cost of your time would be much higher than $4.50 an hour.

Source: Wood Heat, Energy Division, Department of Natural Resources and Conservation.

WOOD TREATING ASSOCIATION BEING FORMED

Montana wood treaters gathered in Helena recently to begin developing a wood preservative treaters association. The formal organization would give wood treaters in the State a collective voice in dealing with the many issues that effect their businesses.

If you are a post and pole manufacturer, wood treater, or post cutter and would like more information, contact Ray Robinson (406) 752-6029 evenings, or Alan Childs (406) 754-2725. The next meeting is scheduled for November 16, 1988 in Lincoln, Montana.

PRODUCTS FOR SALE AND WANTED

For Sale: ¼" to 2½" dia. x 16 ft. lg. or larger dowels available in lengths up to 10 ft. long. Balls, bases, blocks, electronic parts, handles, knobs, moldings, plugs, reels, rollers, shaping, spools, toy parts, wedges and wheels. Available in plain, dip spray or tumble finishes. We treat for outside use. Also, Cooper's and Food Processors supplies. Many other wood products to customer specs. Contact: Ed Koelbl, American Wood Working Company, P.O. Box 335, Montello, Wisconsin 53949, phone (608) 297-2131.

For Sale: High quality timberframe homes. Full service design staff. Frames in Douglas-fir or oak. Heavy timbers hand notched, pegged with oak. Fully engineered timberframe trusses also available, compatible with log, panalized or conventional construction. Contact: Timberhouse Post and Beam, SE 696 Little Sleeping Child Road, Hamilton, Montana 59840, phone (406) 363-3608.

For Sale: 1 T/L #1 Com + Btr. Red Oak, K.D., dressed after K.D. 3/4", 1 T/L #1 Com + Btr. White Oak, K.D., dressed after K.D. 3/4". Contact: Jonathon Fox, Germain Timber Company, P.O. Box 7836, Pittsburgh, Pennsylvania 15215, phone (703) 832-5934 days, (804) 296-5586 evenings.

Wanted: Side lumber from a tie mill. Ponderosa pine, 1" and 2", 8' or 9' O.K. Our usage is year around. Contact: Bitterroot Pine Products, P.O. Box 67, Hamilton, Montana 59840, phone (406) 363-6620.

EQUIPMENT FOR SALE

For Sale: PT&E Log Trailer, front bunk and bang board electric scale on front. Air on trailer, 9' bunks, Michalen 10:00-22 radials, real good condition $4,500.

1979 Barko 160 log loader, 100% rotator grapple mounted on 75 diamond reo, good condition. Contact: RG Lumber, Route 62, Box 3230, Livingston, Montana 59047, phone (406) 222-2667.

For Sale: New indexable carbide tips for notcher, sizer/planer. Sq. 650" - 4 sided $3.75 each. R-12-1" rounds or P.T.E. 200 series rounds $5.75 each. P.T. 500 series 2 sided $4.75 each. Sharpening of rounds or 2-4 sided $2.00 each, fast turn around service.

Wagner chamfer machine with stacker, complete with carbide tipped head, 3 phase power, used very little and in like new condition.

Live bunk or log decks made. Call with your specifications, as to length and width for our low overhead price quote. Save even more by doing some of the welding in your own shop. Includes all necessary parts chain, sprockets, bearings, shafts, steel beams, hydraulic or electric reductions, and all necessary parts welded and machined. Contact: Wagner's Machine, RD #1, Box 424, Beaver Springs, Pennsylvania 17812, phone (717) 658-7301.

For Sale: 8½' portable short log sawmill, excellent condition. Includes 36" inserted tooth saw, 50 HP electric motor with starter and 100 amp fuse box, hydraulic carriage and dogs. Can be powered by diesel or gas unit equivalent to 50 HP electric motor. This unit is nearly new. Contact: Opal Matye, P.O. Box 913, Monarch, Montana 59463-0913, phone (406) 236-5352 or (406) 236-5388.

For Sale: Moodmizer bandmill LT40-HDE3, four months old, must sell, sharpener main unit complete, sharpener blade support assembly with grind system, water lube system, tooth setter gauge board, trailer package, one extra saw with this unique bandmill. Contact: Wholesale Log Homes, Box 201, Tarrs, Pennsylvania 15688, phone (412) 887-4135 or (412) 547-3755.

Logging Equipment for Sale: Cable Log Skidders: 1) 1984 JD 440D Turbo "NEVER USED IN LOGGING" $32,500; 2) '81 JD 640 $26,500; 3) '77 JD 640 $18,000; 4) '76 Clark 666B $13,000; 5) '73 Timberjack 208D $8,500; 6) Pettibone 501 $7,500; 7) '74 JD 440B $10,500; 8) '70 JD 440A $8,000; Grapple Skidders: 9) '79 JD 540B $19,500; 10) '79 JD 540B $18,500; 11) '76 JD 540A $12,000; 12) '78 Timberjack 380 $18,000; Feller Bunchers: '78 1074 Melroe Bobcat $11,500; 14) JD 450C Morbark $14,500; 15) '78 Drott 40 $26,500; 16) '79 JD 450C Outside Blade $11,500; 17) Several units not listed; 18) Parts and attachments for most skidders; 19) We have feller bunchers, skidders and loaders located but not listed. Contact: Ron Berthiaume, Midwest Tractor, Inc., Hwy 10 4 Miles West, Big Lake, Minnesota 55309, phone (612) 263-3777, or evenings (612) 295-5037.

If you wish to advertise a forest product or a piece of wood-processing machinery in this bulletin complete the form below. No charge is made for this service. If you wish to rerun an item, a written request must be submitted before the next issue.

NAME OF PERSON OR FIRM: _____

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Type or print your advertisement in the space below, detach and return to:

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